

The ANTIQUE RADIO GAZETTE



OFFICIAL
PUBLICATION OF
THE ANTIQUE
RADIO CLUB
OF AMERICA

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No. 3



J. Albert Moore Editorial Award

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It is our intention to have the Gazette published as closely as possible to the following dates:

March 31	June 30
September 30	December 30

The closing dates for receiving material of all kinds in order to have it appear in the next issue would be:

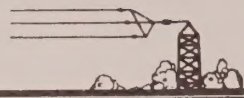
February 15	May 15
August 15	November 15

The Antique Radio Gazette is published quarterly in Madison, Connecticut.

Yearly dues of \$12.00 U.S. currency are payable to ARCA January 1, of each year for members in the USA, Canada, and Mexico. Overseas dues are \$14, which includes airmail postage.

The Antique Radio Club of America was incorporated in the State of Kentucky, in September, 1972. The first meeting was held at the Marriott Motor Inn, Washington, D.C., on September 23, 1972. At this meeting, by-laws were read and approved and directors selected. We feel that the inception of this Club is a giant step in bringing together those individuals whose chief interest lies in the area of early radio. We invite all collectors and historians of the subject to join the Club. A note to William E. Denk, Secretary, 81 Steeplechase Road, Devon, Pennsylvania 19333, will bring you an application blank by return mail.

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The Louisville ARCA annual convention was a great success! Attendance was excellent. Everyone seemed to be having a good time. As with any successful event, there was a lot of behind the scenes work necessary to plan and run the convention. My thanks, on behalf of all who attended, go out to all of those workers who made it possible.

Planning has already started for the 1987 convention. The Mid-Atlantic Antique Radio Club, who will be our sponsor of the convention in the Washington, D.C./Baltimore area is a "gung-ho" group who I know are going to put on a best-ever convention for us.

Mary and I drove down to Meyersville, Maryland on July 27 to attend the Mid-Atlantic Clubs' second anniversary meeting at the farm of their vice president, Ed Lyon. The club has grown to over 200 members in only two years, and over 100 attended the combined picnic, flea market, and auction. A lot of equipment changed hands.

At the picnic, a new "supplier" showed up. L.M. DiBarry (212 N. 6th St., Chambersburg, PA 17201) makes very fine AK breadboards, in all sizes, finished or unfinished. He will also build cabinets and loops to order. He had his work on display and it was very good.

The meet also gave me a chance to meet with the Mid-Atlantic Clubs' Board of Directors to start detailed planning for the 1987 ARCA convention.

On the way down to our Louisville convention, Mary and I stopped off in Charleston, WV to visit with Lloyd and Patsy McIntyre and other members of the West Virginia Chapter of ARCA. During the visit, we visited the museum at Ashland, KY where the West Virginia group has provided a radio display in one of the museum rooms. The display

is designed to interest the general public, in contrast to the radio collector, and it appears they have been successful, since the museum curator told me that the radio room was the most popular room in the museum. I recommend that if any of you get close to Ashland, it's worth paying a visit to the museum. If any of you are interested in approaching a local museum about setting up a radio display, I suggest you contact Lloyd for information about what they have learned, tips on how to approach museum management, and tips on what the general public finds interesting.

The West Virginia Chapter announced at Louisville that they are going to sponsor an annual award to the author of the best article printed in the Gazette during the preceeding year. The award will be made at the convention. Details appear elsewhere in this issue. I think that this is a great thing for them to do. We continue to need new authors to contribute new articles for the Gazette. I hope that this award will trigger a few budding authors to get to work and send in that article that they have been toying with in their mind for a long time.

At the last Board of Directors meeting, the group voted favorably to put a number of by-laws changes to vote by the general membership. The material is relatively voluminous, so this is last call; if you would like to vote, and haven't, let Bill Denk know it, drop him a postcard immediately, so we can send out the material soon.

Northland Antique Radio Club

A new organization has been formed to aid in the hobby of collecting old radios in Minnesota and the upper midwest. A group of collectors from the Minneapolis-St. Paul area has organized the Northland Antique Radio

Club, which is involved in all aspects of the hobby.

Bi-monthly meetings are being scheduled, featuring guest speakers, demonstrations, buy/sell/swap sessions, displays, and a variety of outings. Dues are \$10 per year, which covers activity expenses as well as the cost of a newsletter with free ads.

The initial meeting of the club was held June 21 for the purpose of planning future events and to promote charter membership involvement. Interested collectors may write for additional information and membership application to: Northland Radio Club, P.O. Box 18362, Minneapolis, MN 55418.



West Virginia Chapter

The Antique Radio Club of America, West Virginia Chapter presents the First Annual J. Albert Moore Editorial Award for excellence in an article presented for publication in the Gazette.

The First Annual award presented to Violet Moore, his wife, for his past contributions in reporting and editorializing.

In February ARCA and the West Virginia Chapter in particular, suffered a great loss in the passing of J. Albert Moore. The West Virginia Chapter, in order to preserve the memory and stature of this fine gentleman, has established the J. Albert Moore Memorial Award. This award will be presented annually to an individual for his or her outstanding contribution of an article or series of articles published in the Gazette. This award will be given

to that individual as selected by a panel of three people. That panel consists of John Drake, John Terry and Geoffrey Bourne. The depth of our membership and backgrounds could create one of the most enjoyable and exciting publications in the country. It very well may surprise you as to your ability to write and present your thoughts on a given subject.

The reward is a treasure of a lifetime, both in having your articles published and having received a most prestigious award as pictured on this page. Mr. Moore was a firm believer that the future belonged to the younger club members today and not tomorrow. Our senior members are here to help guide, but ours is to mold the future success of our great organization. We need to expand our already superb magazine and keep it growing as our membership grows. With your help and the desire of some to capture this award, we will achieve our goals.

This award is not a revolving award. It will be inscribed with your name to be placed among your collectibles.

Lloyd E. McIntyre II
Executive Vice President

News from Charleston

It was really great to renew acquaintances and make new friends at the Louisville meet this year. Our chapter had a showing of no less than eight members and, to borrow from an old cliché, "A good time was had by all."

Book sales far surpassed our expectations at Louisville as several different books were sold out. The club picked up 10 copies of a new book at the post office on the way to Louisville and that book sold out within an hour after arrival! Some of the old standards (i.e., Vintage Radio and Flick of the Switch) also sold very well. Many collectors just replaced their worn out copies.

The club's meeting room is proving to be quite functional. We had a record attendance for members at the July meet. The Kanawha County Amateur

Radio Club is using the room to conduct code classes for ham radio buffs. It's rewarding to our club to see the benefits of a permanent meeting place going not only to our organization but to others as well.

Blaine Smith
Reporter

Do you need these Gazettes?

(Main articles only listed)

Here's a brief resume of Gazettes we have in stock. Those sold out may have articles xeroxed; write to us. Early Gazettes are scarce, later ones plentiful. \$2.00 apiece, includes postage. (ARCA, 81 Steeplechase Rd., Devon, PA 19333)

Vol. 1 (scarce). 1) Crosley pup. 2) Wireless Specialty Apparatus Co. 3) Atwater Kent Breadboards 4) Kennedy Years

Vol. 2. 1) Patents and Atwater Kent II. 2) AK Story. 3) Auto Radio, and Restoring Pilot 3" TV. 4) Sarnoff Story (sold out)

Vol. 3. 1) "Wireless Clark" (sold out) 2) Tube Collecting (sold out). 3) Dr. Mahon Loomis. 4) Practical Points on Tube Numbering Systems.

Vol. 4. 1) AK #8 Breadboard, How to Replace Transistors for Tubes (sold out). 2) Build a Zero to 6 Volt Power Supply. 3) McMurdo Silver; Browning Drake Receiver. 4) Aeriolas and Aeriotrons (3 & 4 sold out).

Vol. 5. 1) Build a 6V, 3a. Reg. Power Pack. 2) AK Numbering System. 3) Hand Painted Philcos; SW 3 Receiver. 4) Keys (3 & 4 sold out).

Vol. 6. 1) Operadio-Dukane Story. 2) Marconi, 30 years of radio. 3) Fleming. 4) Restoring Radio Finishes; Story of the Key.

Vol. 7. 1) These 4 Gazettes all deal with the Federal Story and Story of the Key, *Only No. 3 is not* sold out.

Vol. 8. 1) Crystal sets; Story of Key. 2) 50 Years Experimenting with Crystal Sets. 3) Crystal set article continued; AK cone restoration. 4) Key classification; Antique TV.

Vol. 9. 1) Early RCA TV (sold out). 2) Early Raytheon; Country's First TV. 3) Getting started in TV collecting; more crystal sets. 4) Early TV; FADA Neutordyne 170 A.

Vol. 10. 1) Grebe CR 12. 2) Colin Kennedy Co. 3) Radio Horn Speaker, also D'Agostino. 4) Pilot Wasp; Felix the Cat.

Vol. 11. 1) Armstrong-DeForest Patent Controversy. 2) America's First Broadcast System. 3) Wireless Station at Point Judith. 4) WWJ, Detroit.

Vol. 12. 1) Radio Reflections. 2) Evolution of TV. 3) C.T. McQuillan. 4) Early CW Transmitter

'Stuff'

I saw an old movie on TV, made when Nickola Tesla was still alive, I believe. In the movie, Dracula's name was Armond Tesla. As you know, Tesla had argued with Edison, and he probably argued with others. Geniuses usually do. So I wonder if this movie was made by some of N. Tesla's enemies.

Here is an 'invention' that I don't know why was never (to my knowledge) sold or used (I invented it) by workers in and around electricity.

Not long ago I heard a news report on the radio that an adult and some children sought shelter under a tree during a thunderstorm. People are often caught on golf courses when a storm arises. The lightning hit the tree, and some of the people under it were severely burned.

I have thought a little about this problem, off and on, for many years. It seems to me a Farady cage, portable, might be an answer. It could be made of relatively heavy copper that could be folded up for transport. Would be for one person and a small child who could not carry his own. A place like a golf course could have a galvanized skeleton structure to protect say, eight people, at strategic locations (more than one).

Frederick Butterfield
Rt. 3, Box 394
Williamstown, NJ 08094

Receiving and Transmitting Sets Constructed by Members of the Radio Association of Greater New York

Reprinted from *Popular Radio* which used it as a promotional piece.

Five Modern Radio Sets



The present-day interest in radio is the direct outgrowth of the tinkering of that handful of American amateurs who first started to investigate the mysteries of "wireless" shortly after Marconi made his startling announcement that he could "telegraph without wires." Since that historic day the ranks of the amateurs have expanded until, a couple of winters ago, the broadcasting wave burst upon the public. Immediately everybody began to take more than a passive interest in radio. To the amateur lies the credit for the rapid development of this new art, both in the fields of experiment and of practical usage.

These five sets are being shown at the annual exhibition of the Radio Association of Greater New York as evidence of what the amateur is doing in the construction of his own receiving and transmitting apparatus.

AN EXCEPTIONALLY POWERFUL C.W. TRANSMITTER

This set was built by Paul Haus (2VH). With this type of transmitter, the



amateur is enabled to transmit to any district of the United States, to Cuba, and Canada, and across the ocean. Over 300 sets of this type were heard in Europe this winter. The parts used in its construction are as follows:

C1 and C2—high voltage condensers, .002 mfd.

C3 and C4—bypass condensers, .0005 mfd.

C5 and C6—series condensers, .003-4-5 mfd.

C7—grid condenser, .0005 mfd.

C8 and C9—filter condensers, 1 mfd.

A—tuning inductance, 33 turns of No. 10 wire wound on bakelite strips; diameter of coil, 5 inches.

B—C.W. transformer, 750 watts

C, D and E—honeycomb coils, L-200

B1—high voltage winding, 1500 volts each side of center tap

B2—filament winding, 12 volts

F and G—iron core chokes, 1½ henries

I—grid leak, 2500 ohms

K—voltmeter, 0-15 volts A.C.

H—milliammeter, 0-500 M.A.

L—thermo-couple ammeter, 0-5 amperes

M—jack for microphone transformer and chopper

N—key jack

O—aluminum-lead chemical rectifier, borax solution, 48 jars

P1 and P2—4 pole double throw switch

Q and R—UV-203 radiotron 50 watt tubes

ONE OF THE BEST OF THE SUPER-REGENERATIVE SETS

This receiving set was built by Leo Johnson (2CTQ). The parts used are:

A—honeycomb coil, L-12500

B—honeycomb coil, L-1500

C—2 variable condensers, .001 mfd.

D—2 mica fixed condensers, .002 mfd.

E—2 mica fixed condensers, .0005 mfd.

F-60 turn coil, of No. 18 S.C.C. wire, wound on a 3½ inch tube and tapped every 20 turns

G-variometer

J-filament rheostats

P-double circuit jack

Q-honeycomb coil, L-200

R-grid leak, 1 megohm

F-mica grid condenser, 00025 mfd.

G-grid leak, 2 megohms

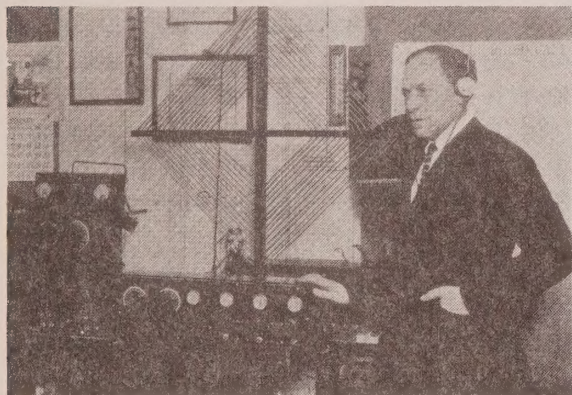
H-audio frequency amplifying transformer

I-filament rheostats

J-1 two-circuit jack and 1 single-circuit jack

K-binding posts

The loop antenna consists of 12 turns of tubular braided antenna wire wound on a loop 2 feet square. Two stages of audio frequency amplification have been added to the circuit at the points XX.



In operating this set it was found that Western Electric 216-A tubes gave superior results to other tubes, both in respect to clarity of reproduction and strength of signals.

The set operates on a loop two feet square which is wound with 14 turns of tubular braided antenna wire.

A REAL "DX" RECEIVER

Long-distance receivers that are built by the amateurs themselves are usually wonderful pieces of apparatus, both as to design and construction; they offer convincing indication of just how much the amateur has contributed and is contributing to the art of radio. This receiver, built by J.D. Gorman, has picked up practically all of the broadcasting stations east of Denver, Colorado. It consists of the following parts:

A-primary coil, 25 turns No. 18 S.C.C. wire wound on a 3½ inch tube

B-secondary coil, 60 turns No. 18 wire wound on the same tube with ¼ inch separation between A and B

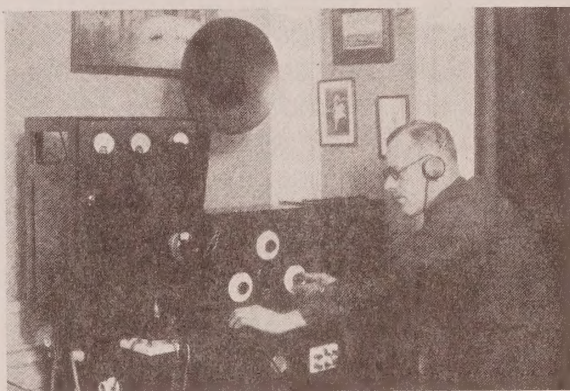
C-variometer

D-variable condenser, .001 mfd.

E-variable condenser, .0005 mfd.

How many times has the novice had trouble with his set? How many times has he called upon a neighboring amateur for advice and had the more experienced man come over to his house and put his set into operation again? This is one of the pleasures of the regular amateur—to help his less experienced friends in their problems and to instill greater interest in radio among his acquaintances. Why not join a radio club yourself and learn more about radio?

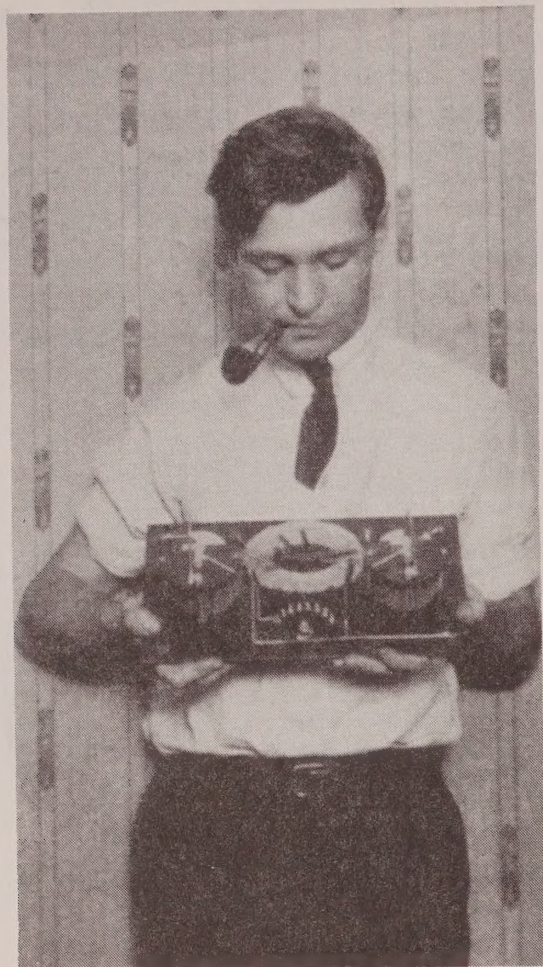
Indeed one of the most important activities of the amateurs is their radio club work. At these meetings, to which anyone interested in radio is welcomed as a visitor, lectures on new developments and apparatus are given, with educational features for novices and amateurs alike.



Engineers, amateurs and novices alike find much of interest in this association with their fellow radio enthusiasts at radio club meetings.

THE WIDELY-KNOWN "REINARTZ" TYPE OF RECEIVER

This type single tube receiver is simple to build and consequently has found favor among the C.W. enthusiasts of this country and abroad. The tuning with the receiver is simple; distant signals may be picked up with ease with only one tube.



This set was built by Arthur K. Ransom (2QK). Mr. Ransom completed the set in two evenings' work at home. Immediately upon connecting it to his antenna and ground, he began to receive a long list of amateur and broadcasting DX stations. The set tunes sharply for C.W. and telephone stations, although it is not as selective with spark signals.

The main part of this set is the spider-web combination inductance. It consists of two coils in one. The plate coil is wound on 9 spokes on a $2\frac{1}{2}$ inch center by weaving in and out between the spokes. Taps are brought out at

The second coil is then started and wound in the same direction as the the 15th, 30th, and 45th turns. At the 45th turn the coil is broken and a lead is brought out.

plate coil on the same form, and taps are brought out at the 2nd, 4th, 5th, 6th, 7th, 8th, and 9th turns to the antenna switch; a tap for the ground connection is made at the 10th turn, and taps are also made at the 26th, 33rd, and 40th turns for the grid switch. The coil may be wound on thin cardboard, with the spokes cut out with shears.

Two 23-plate variable condensers may be used. These condensers usually have a capacity of about .0005 mfd.

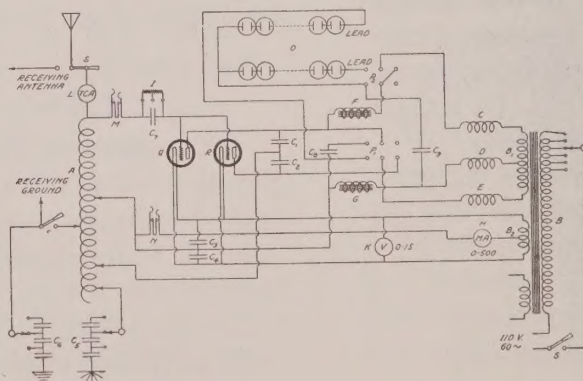
In this set the coil is centrally mounted on a bakelite panel with the antenna taps located directly beneath, and the grid and plate taps above.

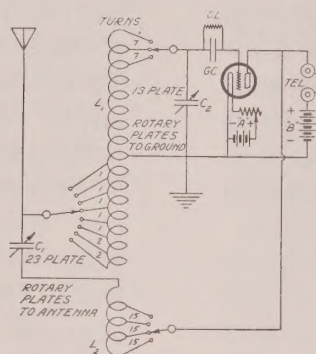
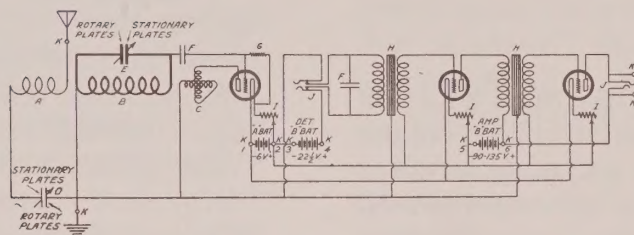
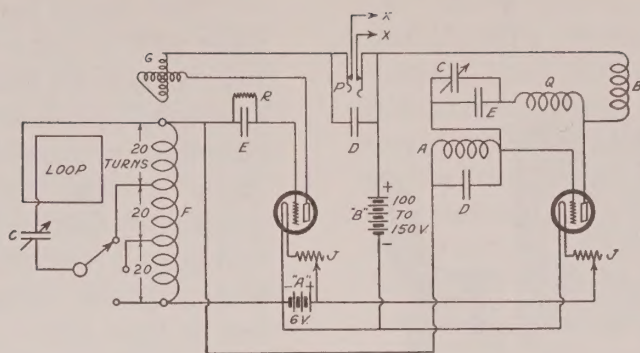
The variable condensers are fastened to the panel on either side of the tuning inductance, and are equipped with knobs and dials for control.

All of the connections between the various instruments and switches are made with square tinned-copper bus-bar wire. The bus-bar connections are run in straight lines in a workman-like fashion and the set has an appearance that is comparable with the best of commercially manufactured apparatus.

As all of the instruments and connections are mounted directly on the panel, the set may be taken out of the cabinet and inspected at any time without disarrangement of the wiring.

The set will tune from approximately 150 to 400 meters. It may be made to respond to higher wavelengths, however, by using 43-plate condensers (.001 mfd.).





Our newest members

Mervin Shiu-Jan Wong, NYC, NY
 Jack Curry, Georgetown, KY
 Timothy Buckland, Charleston, WV
 Hardin McCauley, St. John, IN
 Charles Johnson, Lawrence, KS
 John M. Hollis, Merrillville, IN
 John Nutting, Huntington Beach, CA
 Joel Shusterman, Cherry Hill, NJ
 Jeffrey Angelo, Roselle Park, NJ
 John Underwood, Mobile, AL
 George Palermo, Sarasota, FL
 Paul Ticker, Ft. Smith, AR
 John L. Wiemers, San Jose, CA
 Capt. Thomas Gibbons,
 Ft. Campbell, KY
 Carl W. Lupo, Jr., St. Simons Is., GA
 Charles Harper, Lexington, KY
 Harlie Willis, Louisville, KY
 Joe Pentecost, Nashville, TN
 Charles Conner, St. Louis, MO
 Randy Bassham, Poplar Bluff, MO

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 Stephen Cisler, Louisville, KY
 Thomas Calantonio, Rockville, MD
 Everett Ballard, Louisville, KY
 Dan Gustafson, Chicago, IL
 John Jones, Anderson, IN
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 Walter Asherbraner, Madisonville, KY
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 Vinnie Shea, Sandy Hook, CT
 B.F. Moore, Pasadena, TX
 Harold Gowen, Greenville, NC
 Carl McMackin, Westfield, NJ



Recently had a call from a former collector who had an excellent collection of mighty rare and early wireless gear. Apparently this fellow had second thoughts after he disposed of his collection?

Now—he was interested in building up another collection, probably on a smaller scale. Once you have a taste for the truly fine items of the early days—these are going to be mighty hard to locate and acquire at ever increasing values.

A question came up which took a bit of consideration. If you had to boil down a collection—in a limited space available—what items would you keep?

For number one—the Westinghouse model RC, a high production item of the early 1920's, fits into all collections. It is a compact three tube receiver and restored, these sets work great even today! The cabinets were well made, sturdy, and can usually be made to glow. Their problem is usually that the audio transformers are open. These can sometimes be brought back to life with a spark coil. Failing this procedure, these transformers turn up now and then at radio meets, or similar types small enough to fit into the limited space.

Another item that should be carefully checked is the grid condenser and grid leak. These can be disassembled and brought back to specification. Tube contacts in sockets need cleaning. The metal enclosed fixed condenser in there is generally good, but best to check. Usually it is necessary to replace the rubber mounts of the tube sockets—found hard as a rock!

Often these sets are hooked up to work with mediocre results. Like a car, they have to be fine-tuned and checked carefully and once this is done, the results are most surprising! They do cover a wide range of frequencies, especially with at least a fifty foot antenna and a good ground. They were noted for DX reception and still bring 'em in from afar.

Westinghouse RC's show up regularly at meets in the range of \$100 to \$150, depending on condition. Now and then they get swapped by the collector looking for a mint one. In 1922, Westinghouse came out with a loading coil type CB which easily attaches to the rear binding posts of the RC for extended range. This gave access to old Navy station NAA, at Arlington, Virginia, time signals and code press, on 2500 meters. This made a very versatile receiver used by jewelers in setting time from the Naval Observatory.

The Aeriola Jr. crystal set and the one tube WD-11 Senior are much sought after, but they turn up now and then. The Grebe CR-5 was especially popular with the ham operator, with Grebe producing quality items. De-Forest, Paragon, Clapp Eastham, Radio Apparatus Company items are especially desirable in a collection, though rough to find. When it comes to the William B. Duck and Electro Importing items, you're in the very early stages of development, almost impossible to find items in this category today.

Then there are some of the lesser known manufacturers that are well respected such as Klitzen of Racine, Wisconsin, Signal Company, Duckworth, Connecticut, Acme, Daven, Remmler, Simplex, Pearlco, and numerous other manufacturers who started off making parts and components, then later some sets. Stewart Warner-Automotive got into this for awhile.

Speaking of automotive, to radio Atwater Kent was most outstanding in their development of quality item parts and components, later on going into the production of sets as demand grew. But back to the very early and World War I production; one company

especially stands out, Wireless Specialty Corp., which turned out many items for the military. Their IP models with all the accessory components were beautiful in construction, expensive even in those days. Wireless Improvement (an off-shoot) produced equal quality. These sets are rare and interesting, and lucky is the one who finds them!

We don't want to overlook Kennedy and Cutting Washington, as well as Kilborn & Clark, who were prime producers of commercial as well as broadcast receivers. These sets were most impressive with excellent workmanship. Many still furnished parts and components, such as General Radio, Magnavox, Thordarson, Zenith, Fada Tuska, Day Fan, as well as some tops with Federal and RCA producing both sets and parts. As the industry grew, hundreds of manufacturers got into the act, some short lived, while others made it through the great depression of 1932 with a struggle.

Radio today is a far cry from then. Plug it in, push a button, and that's it! In the teens and even 1920, you had to hunt around to find a radio store. If you bought a complete set, you lugged home a set of B batteries, a storage battery, insulators, aerial wire, ground clamps, to say nothing of a package of delicate tubes, a pair of phones or a speaker, a lightning arrestor, and then borrow a neighbor's ladder to climb up on the roof! Of course that was the easy way - then!

But consider the guy who gets excited seeing an ad in a magazine or newspaper leading him to build his own. Chances are he has to write away for parts. By the time the parts arrive he has erected an aerial and acquired a soldering gun, known then as an iron, which he heated on the kitchen stove. First thing was a bakelite panel to be drilled to install parts. Electric drill? No Way! The old hand brace and bit method. Half way through the panel, he hears it suddenly crack. Out comes the glue pot, as he proceeds.

Mounting the parts on the panel—no template? The holes don't match

up? More drilling. Ever mount a tap switch with multiple contact points—curved line? But somehow the parts get on there. Next, wiring. Says "solder the joints." Back and forth to the stove as the iron cools down. Finally, wires everywhere, but it's finished! Won't be long now, as you insert the detector tube. All connected you put on the headphones and turn on the rheostat —YIPES! !! There goes a flash and a \$6.50 tube! How did the B plus get to the filament?? Maybe next pay-day will recheck?

Lotsa fun then—lotsa fun—NOW!

CHEERIO!!

Mel Comer
205 Roberts Road
Ardmore, PA 19003

Antique Television Highlights F.A.D. Andrea (FADA)



Frank A.D. Andrea and his initials were familiar to thousands of radio owners when the broadcast medium was in its infancy. The family name probably originated in France where "D," "DE" and "DU" were sometimes used as a prefix to family names. Frank was born in Salerno, Italy and brought to this country by his mother, a widow, when he was a year and a half old. He

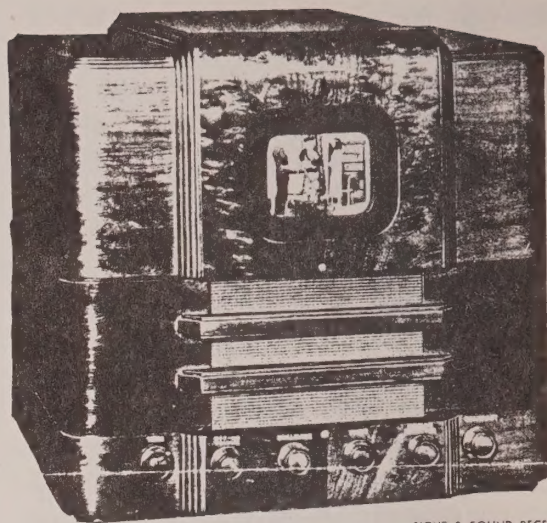
left school at eleven and went to work helping his stepfather collect junk for resale, peddled papers and worked at a bench at an electroplating plant.

Later he attended night school, studying mechanics and toolmaking. One day his youthful imagination was fired by a visit made by Guglielmo Marconi to the plant where he was working. The inventor of wireless wanted a certain type of telegraph instrument and Andrea set himself eagerly to produce it. Andrea afterwards managed to borrow a couple of Marconi's books on wireless and this really started him in the field.

In 1917, Andrea went to work for Lee DeForest and wound up directing the DeForest manufacturing plant during World War I. When DeForest started to concentrate on research, Andrea went into business for himself. He started in a small rented room in the Bronx with two helpers. First they concentrated on building individual parts for radio sets and then they developed radio kits that were used by the early ham operators. He finally put together a very good radio receiver and this led into mass production and the trade name FADA became known.

In 1939 when television broadcasts were becoming quite numerous it created many new problems for both manufacturers and broadcasters. Many executives in the radio business tried to show that television was still nothing more than a scientific novelty, incapable of producing any national service. Much emphasis was placed on the fact transmitting radius of a television station was limited to 50 miles. Practical experience has indicated that with the increase in power which would be provided later, the range would exceed the theoretical limit, but even with some increase in range there would probably be an enormous number of stations required to serve the population of the United States and the cost would be prohibitive.

In spite of the attitude of some radio manufacturers, Andrea started to work on a television receiver. He designed



SIGHT & SOUND RECEIVER

MODEL 1-F-5 SPECIFICATIONS

a 17 tube chassis with a decorative front panel with an "A" on it that was put out as a kit with 269 parts to be assembled by the purchaser. Then he opened a school with a television course to train repairmen to work on television receivers. Although there were other schools advertising television at the same time, Andrea attempted and succeeded in teaching people by mail with elaborate drawings to construct a receiver in their own home. The drawings that he used were clear, detailed and included a step by step procedure that the purchaser could follow when assembling a receiver from a kit.

He gave out certificates to those who completed his course and presented each with an identification card that they could carry with them when they worked. He probably was the first to do this and did a fine job.

As part of the course in television repairing the students put together components and circuits on metal chassis to which they fastened a wood veneer panel.

Andrea did put out a complete cabinet table model and advocated using the home made chassis in other ready made cabinets. His cabinet model called The DeLux had an attractive cabinet but little change from the classroom KT E5. It was the tremendous sales pitch, advertising and promotion program as well as service preparation that went with the Andrea models that made them popular.

Andrea retired once with what was considered to be a substantial amount of money, but it did not last long and he returned to work as president of his company and chairman of the board. The company eventually employed over 200 persons and had an annual sales volume of \$9,000,000. Frank Andrea died in December 1965 leaving a wife, a son, Frank, Jr., two daughters and a half brother. There was not much written about Andrea, but he certainly contributed a lot to the entertainment field.

Although few history books mention Frank A. DeAndrea as contributing to the development of television, he did fill a need by establishing the first school for television repairmen in New York City and according to M.B. Sleeper in his book *Look and Listen*, he was the first radio manufacturer to market a line of sight and sound television receivers.

Antique Radio Classified

The Antique Radio Classified has a new owner. As of the October 1986 issue, the Antique Radio Classified is being published and edited by John V. Terrey, an ARCA member in Carlisle, Massachusetts. Gary Schneider, the publication's founder, is continuing as Assistant Editor. The transition is expected to be smooth.

Antique Radio Classified is a monthly magazine which contains classified ads, articles, news and other information of interest to antique radio collectors. ARC was started in 1984 and grew to over 1800 subscribers for the August 1986 issue. Gary reluctantly decided that the additional resources of a new publisher were needed and arrangements were made to sell A.R.C. to John Terrey.

John's interest in radio goes back to 1954 when he received his ticket at the age of 13. W5DTQ has been his call ever since. For over 20 years, he has worked in the electronics industry as an engineer and manager. His radio collecting began in 1962 with a West-

inghouse RC set, but serious collecting did not begin until the late 1970's. His collection now numbers over 200 sets.

No changes are planned to A.R.C.'s format, publication schedule, subscription rates or advertising rates. The first 20 words of subscriber's ads will continue to be run free. The ad deadline remains the 10th of the month.

Subscription rates are \$18 per year for second class mailing and \$24 per year for first class mailing. The new address for all correspondence including ads and subscriptions is: A.R.C., P.O. Box 2, Carlisle, MA 10741.

Book Review

The secretary has been in receipt of a copy of the first edition of "Kovel's Advertising Collectibles Price List." Radio listings are few but if you are, like the writer, a flea market hound, this book lists prices of nearly everything collectible in the advertising world. It will sadden you to think of all the things you have thrown away, that are worth money today.

Crown Publishers, Inc., New York, NY 10003. \$11.95 US, slightly higher in Canada.

JWD

OBITUARY

We note the passing of an old time collector of many years, Raymond Klusewitz of Reading, Pennsylvania.

Ray reproduced booklets and instruction sheets for various old sets such as Aeriola's, Radiolas and others. His contribution to our hobby will be certainly missed.

Ye Old SWAP SHOP

All ads and Swap Shop items are printed in the Gazette free of charge. We do ask that you write your ad on a separate sheet of paper, type if possible, or print, and be sure to include your name and address. We reserve the right to edit all ads. ARCA is not responsible for any transactions, of course.

FOR SALE: 6 feet of magazines, Elect. Ecp, 1927-1922, Radio World, 51 copies. In the 20s; Radio News, Experimenter 24-25, Sci. & Inv. 25 copies 1921-25, QSTS, SASE

Floyd A. Paul, 1545 Raymond Ave.
Glendale, CA 91201 Tel: 818/242-8961

FOR SALE: Authentic reprints operating instructions for Hopalong Cassidy radio. Send \$4 to:

Ed Ripley, 2276 Holloway Ave.
Maplewood, MN 55109

FOR SALE: 1933 Radio News, \$25. Riders # Manual, \$50. Five 01A tubes with bakelite bases, \$25. 2 RCS W011 Tubes (brass bases and tips) filaments open, \$25.

F.W. Chapman, Apt. B 218,
1130 N. Lake Parker Ave.
Lakeland FL 33805

WANTED: for Leutz Model "C": 0-10 Volt D.C. meter for 2 5/8" panel hole (prefer Jewell or Weson 301), two General Radio open frame audio transformers and four GR Terminals 3/4" long and 1/2" diameter.

Ross Smith, 1133 Strong Ave.
Elkhart, IN 46514

WANTED: Bandsread and main tuning knobs for Hallicrafters SX-25, also 150 to 170 ohm line cord for RCA Little Nipper.

Randy Bassham, Rte. 2, Box 162 D
Poplar Bluff, MO 63901

FOR SALE: Several cathedrals; GE with "pearl look" cabinet; maroon "flocked" Karola; more. SASE to:
Ripley, 2276 Holloway Ave.
Maplewood, MN 55109

WANTED: Various copies of the Gernsback maazine "Television News." These started with the Mar/Apr 1931 issue.

Peter F. Yanczer, 835 Bricken Place
St. Louis, MO 63122 Tel: 314/822-1748

FOR SALE: Henry K3, on wheels w/spare tubes, \$1000. HT32A, \$100; SB230, \$200; many items from 2 estates. Send large SASE

J. Wasiewicz, 229 Sarles Lane
Plaeesantville, NY 10570

WANTED: Doron Bros. Electric Co. Hamilton, Ohio wireless equipment, catalogs & information. Cino Wireless equipment, catalogs & information.

Charles Stinger, 404 Ross Ave.
Hamilton, OH 45013 Tel: 513/867-0079

FOR SALE: 200 QST Amateur Radio Magazines \$.25 each plus postage.

Edward L. Jarosz, 54 Birch Street
Bloomfield, NJ 07003

WANTED: Early Crosley items; crystal set, Harko Jr., Harko Sr., Detector, Two-Step, etc.

Larry Wright, 131 Hilltop Drive
Lake in the Hills, IL 60102 Tel: 312/658-5993

WANTED: Parts to build an AK breadboard No. 3945 etc; Detector/2 stage amplifier, TA unit, coupled circuit tuner, Variometer; all items must be in good condition and original. Also want AK breadboard radios with coupled ckt tuner and/or variometer.

Tadayuki Yamada 5-2-36 Tamadaira
Hino, Tokyo 191, Japan

WANTED: Operating instructions for Weston set tester model 537, no. 1212. I can copy your material.

Ken Kelly, 475 Linden Lane, #112
Media, PA 19063

WANTED: Speaker and Escutcheon for a Philco 70. Anything Silver Marshall or McMurdo Silver.

Larry Flegle, 210 Wylie Lane
Woodstock GA 30188

WANTED: Magnavox Micromatic 3-speed turn table.

Willis R. Corson, 62 Mystic St.
Manchester, NH 03103

FOR SALE: Battery sets, tubes, parts, manuals etc. Send SASE for list.

Bob Husted, 270 N.W. 3rd Court
Boca Raton, FL 33432 Tel: 305/368-8358

WANTED: Schematic for band switching Jackson Bell Cathedral. Model no. not discernible. Tube line up 80, 58, 56, 57, 58, 57, 47, 47. Also schematic for Supreme 542 Multimeter and schematic for Knight Signal Tracer using 6x4, 6V6, 6AU6, 6AV6, 6E5.

Itsuo Yano, 80 Lehua St.
Kahului, HI 96732

WANTED: Pre-1960 TV's with interesting style. Paying \$20 to \$4000. I have dozens of cheap 30's & 40's radios for sale/trade.

Harry Poster, Vintage TV's, Box 1883
So. Hack., NJ 07606 Tel: 201/794-9606
201/956-6680

WANTED: Antique tubes. Will consider purchasing individually or entire collection. Want oldies with filaments. Send list with prices you'd accept.

Marc Gottlieb, 931 Olive
Menlo Park, CA 94025

WANTED: Kiel table for AK 60, Zenith wood knobs, Battery Switch for AK 10, part no. 4183.

James M. Cole, 240 Gillespie Drive
Abingdon, VA 24210 Tel: 702/628-2835
K4HRO

JAMES FRED is publishing the Antique Radio Collector Newsletter for the third year. Send \$1.50 for a sample copy or \$7.50 for 6 issues, FREE swap ads.

Antique Radio Publications, R 1
Box 41, Cutler, IN 46920

FOR SALE: Arvin Hopalong Cassidy (1950), VG to Exc., works) \$95. Freshman Masterpiece (1925, Exp. Ref'd., works) \$75. Philco 44B (1933, nicely refinished, not wkg.) \$150. Bulb shaped tubes & radio books. Send large 2 stamp SASE for complete and up-to-date photo list.

Ron Boucher, 376 Cilley Rd.
Manchester, NH 03103 Tel: 603/669-1698

WANTED: AK typ 11 tuner. Will trade good WD-11 or WD-12's or cash. Amrad 3366 set, 1940's small battery sets like RCA BP-10, Majestic 130.

Andrew Mooradian, 5 Priscilla Lane
Winchester, MA 01890

CASH for Radios & Parts. Want all colors & styles by: Motorola, Fada, Bendix, Dewald, Emerson, Gerod, Sentinel, Addison, Knight, etc. Must be bakelite. ALSO WANTED: Pink, blue and green mirrored spartans. Deco & mirrored Glass, & Coca Cola Cooler Radios.

Mark Honea, 13201 N. W. 81st
Parkville, MO 64152 Tel: 816/891-2441

SOMEONE LEFT two original Beitman (Supreme) "Most-Often-Needed Radio Diagrams" (1941 and 1939) at the Louisville Convention. Contact President Troe if they're yours.

FOR SALE: Adams Morgan Paragon RD-5. \$550.

James Troe, 111 Skyline Dr.
Morristown, NJ 07960

WANTED: Electro Importing helix in good condition. Will pay reasonable price. Must be stamped E.I. Co.

F.A. Nickols, 720 E. Eldorado
Appleton, WI 54911

FOR SALE: New Dial scales for Sparton AC-62, AC-7 and Radiola 17, 18, 50. \$7.50 pp.

Clinton A. Blais, P.E., 613 Juniper Drive
O'Fallon, IL 62269

WANTED: Radiomarine receivers models AR-8500; AR-8503; AR-8510 and Mackay (Federal tel.) mod. 128 series.

Walter Britton, 225 So. 17th St.
St. Helens, OR 97051

FOR SALE: Over 200 Battery and AC Radios. Send large SASE with 2 stamps for 5 page revised list.

Donald Juleen, 6250 Ledge Rd.
Sturgeon Bay, WI 54235 Tel: 414/743-7922

FOR SALE: Almost all of the parts for a Kennedy SV type 430. . . For a Grebe Syncrophase nice front panel with the three variable condensers and dials . . . Echophone model A panel . . . some Kolster 6D parts . . . For your display room lots of nice boxed parts, display boards, brochures on advertising. Large SASE for list.

Joe Horvath, 522 Third St.
San Rafael, CA 94901

COLLECTOR hungry for early wireless-catalogs and 1 tubers. Will buy for cash or have a few old telephones and phonographs for trade.

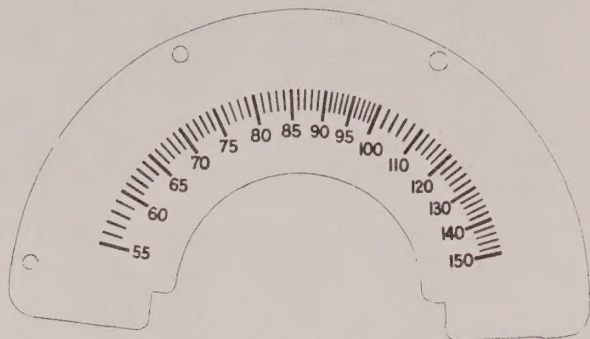
Bill Hoffman, 2570 Falcon St.
E. Meadow, NY 11554 Tel: 516/826-2135

WANTED: Detector/one stage amplifier TA unit for a model 12 Atwater Kent breadboard recently acquired.

Don Herman, 1061 Boulevard
Haver, MT 59501

FOR SALE: Radios, tubes, parts, books, test equip., for the 1920s thru 1940s period. For list send SASE to:

Howard W. Granoff, 2445 Lyttonville Rd.
Silver Spring, MD 20910



CLEAN UP your AK cathedrals with .007 mylar photo marked AK dial faces. For replacement over existing dials, on AK 80, 82, 84 etc., half size as shown. \$10 each.

John Drake, Box 942
Madison, CT 06443
Madison, CT 06443

ANTIQUE Electronic Supply of Tempe, Arizona is expanding its list of items for antique radio collectors. We have acquired collections containing many interesting items. Be sure you're on our mailing lists for the latest catalog supplements coming out regularly.

Antique Electronics Supply, 688 W. First St.
Tempe, AZ 85281

FOR BOOKS, catalogs, instructions material, see our latest listings. New catalog now available at \$2.

Puett Electronics, P.O. Box 28572
Dallas, TX 75228

WANTED: Western Electric tubes and equipment, amplifiers, speakers, miscellaneous items. Send list of items you wish to dispose of to:

Trial Electric Products Inc.
409 Yotsuya Sun Heights 6-1
Yotsuya 4 Chome, Shinjuku, Tokyo 160 Japan

WANTED: Most everything in Western Electric gear. Tubes, speakers, microphones, amplifiers.

David Yo, P.O. Box 832
Monterey Park, CA 91754 Tel: 818/576-2642

RADIO AGE: The magazine for collectors, wide circulation, free ads, outstanding articles. Write for sample copy at \$1.50 pp.

Radio Age, 636 Cambridge Rd.
Augusta, GA 30909

I BUY radio/wireless items pre 1925, books, magazines, catalogs, receivers, transmitters, speakers, crystal sets, detectors, tubes and spark gear. Also collections any size. Hundreds of items always in stock. Try me!

Jim Kreuzer, 6270 Clinton St.
Elma, NY 14059 Tel: 716/681-3186

REPAIRS: Overloaded modern Hi-Fi speakers keep us busy daily. But we also specialize on the problems of antique speakers. Many parts in stock, or we make them when necessary. Let's hear from you. Rates reasonable.

Dixie Speaker Repair Service
545 Shades Crest Rd.
Birmingham, AL 35226 Tel: 205/823-0575

WANTED: Early Hallicrafters communication receivers, transmitters, and any early catalogs or literature pertaining. Advise what you have available and cost.

Max DeHenseler, 333 East 42nd St.
New York City, NY 10017

FOR SALE: Early fine reprints of radio catalogs. DeForest, Tuska, RCA, Kennedy, Wireless Specialty and others. Send SASE for list, all at reasonable prices.

Arthur Aseltine, 345 Glenwood St.
An Arbor, MI 48103

WANTED: Need DeForest parts to restore my interpanel set. Need dials and most internal parts. Please advise what may be available.

R. Burick, 6 Whetstone Dr. #5
Gaithersburg, MD 20877

WANTED: Solar powered radios made by Hoffman, Zenith, Motorola, Admiral, etc. and amateur experimentors. Also interested in other solar powered devices, toys, experimenter kits, photovoltaic cells and panels from the 1950s and 1960s.

Randy Liebermann, 305 East 40th St., Apt. 5J
New York, NY 10016 Tel: 212/867-5747

FOR SALE OR TRADE: Accumulation of battery radios, speakers, parts and accessories, prefer a trade for Atwater Kent #5 or 10 breadboard in good original working condition. For list send a SASE to:

Joe Veliky, 9 S. Second St.
Philipsberg, PA 16866 Tel: 814/342-2328

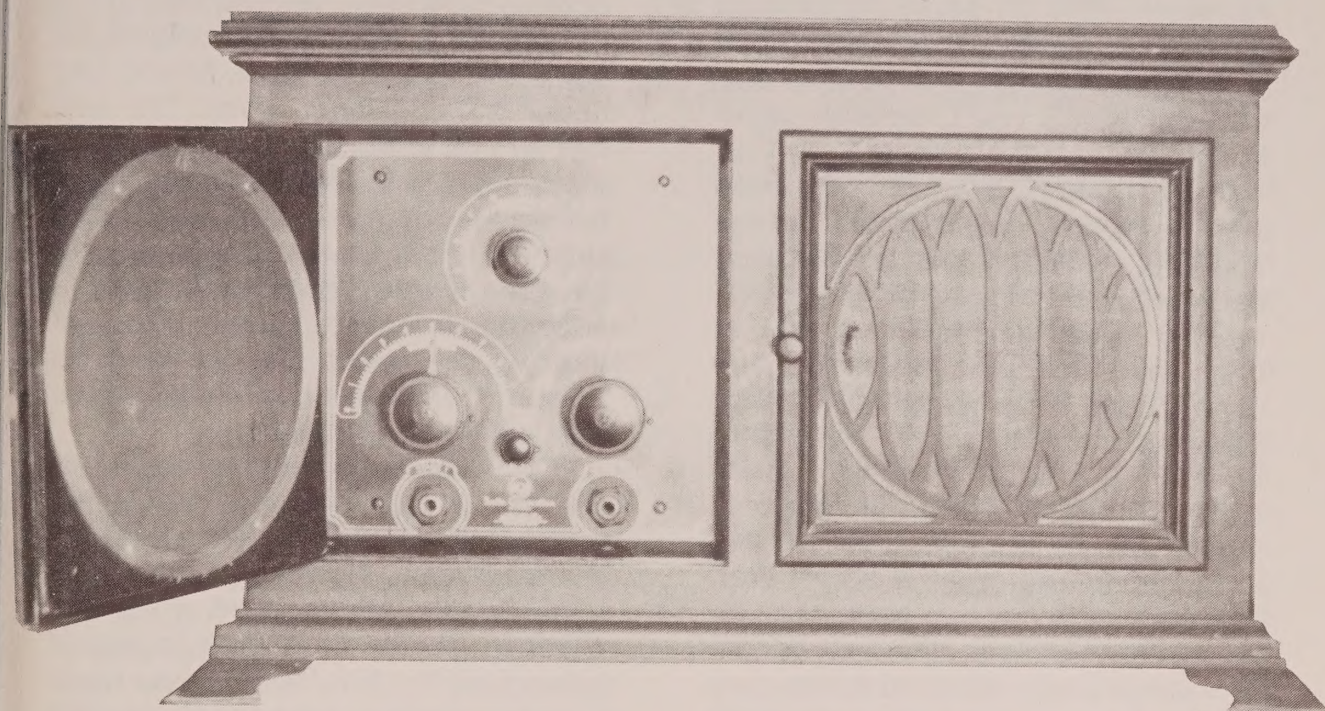
WANTED: Chassis photo and internal parts for 5E-1440 compass receiver.

Will Jensby, 645 Giannini Dr.
Santa Clara, CA 95051 Tel: 401/296-6071

FOR SALE: WE VTq, NE205D new, NE203B (VT1) new, NE 215A (peanut), UX201A-brass tip, WD-12 (tip) McCulloch AC32, Rogers R30, many early four pin type tubes. Can. Crosley C5 (201A's), \$100. Many interesting radio and telegraph books for sale. Send for list.

Victor P. Chartrand, 727 Fraser Ave.
Ottawa, Ontario K2A 251

DXing the Radiola IV



The Radiola IV is described by RCA as "a complete dry cell operated vacuum tube regenerative receiver and amplifier, including a self contained loud speaker." When it was produced in February 1923, it was the top of the line RCA built by GE. Unlike most of the other radios of 1923, it was completely self-contained, having an internal speaker and battery compartments. The only external connections were the antenna and ground.

In looking at the performance of this radio, the time at which it was designed and produced should be considered. In early 1923, all broadcast stations were at 360 and 485 meters (833 & 619 kHz). Most home receivers emphasized sensitivity over selectivity due to the presence of only two active broadcast frequencies. The Radiola IV was built to receive stations from 200 to 600 meters (1500-500 kHz). All of the radios from previous articles were produced later, when selectivity was more important.

Advertising for the Radiola IV is relatively scarce. A Radiola ad from Radio News in March, 1923 reads, "The Radiola IV is a highly efficient receiver

embodying the latest developments in design, but is also a thing of beauty." The ad goes on to claim "long distance as well as local reception."

The circuit of the IV consists of a single circuit regenerative detector followed by two stages of audio. The radio is electrically identical with the Radiola II except for an added stage of audio. In fact, they share the same coil tuning arrangement with many of the early Radiolas, such as the Seniors, the III and IIIA. Unlike these radios the II and IV used the new low filament current UV199 tubes.

The electrical restoration of the Radiola IV was very simple. The radio worked the first time it was used. However, some noise was present due to dirty rheostats and tube contacts. A small amount of contact cleaner on the rheostats and cleaning the tube sockets solved these minor problems.

This radio was designed to use only UV199's. After trying many of my UV199's, three very good ones were found that would fit in the sockets. Unfortunately, many of these sets have slightly warped sockets and mine is no exception. The headphones used

were the Baldwin type C, the internal speaker was the only one used. The A voltage was supplied by three Everready #6 dry cells in series. B voltage was taken from four Everready 763's connected in series, tapped at 45 and 90 volts. A 4.5 volt C voltage came from three AA cells in series.

The batteries in this radio are placed into compartments provided for them. The C batteries have a special compartment with clips to be placed on the battery terminals. The C battery pack used did not fit these clips and connections were made by alligator clips. All other batteries were connected to clearly marked battery cables. The antenna and ground connections are made with special connectors plugged into the back of the radio. The antenna may be connected to one of two places. The first connection will tune from 200 thru 400 meters while the second tunes from 350 thru 600 meters.

To operate the IV, turn the intensity knob to 0, then turn the filament knob to between 1 and 4 when using new batteries. Initial tuning consists of adjusting the wavelength control until a station is located. The filament control is then readjusted for maximum volume with minimum voltage. Intensity is increased until best signal strength is obtained. If intensity is increased too much, a click will be heard and all signals will be distorted.

RECEPTION RECORD FOR THE RADIOLA IV

W.C.	I.C.	A.C.	STATION	KHz	CITY, STATE
8.6	4.8	2	WFIL	560	Philadelphia, Pa.
7.7	4.7	2	WHP	580	Harrisburg, Pa.
7.3	4.6	2	WARM	590	Scranton, Pa.
6.7	4.5	2	WIP	610	Philadelphia, Pa.
5.4	4.4	2	WNBC	660	New York, N.Y.
4.3	4.3	2	WLW	700	Cincinnati, O.
4.2	4.0	2	WOR	710	New York, N.Y.
3.4	4.0	2	WABC	770	New York, N.Y.
2.8	4.3	2	WAEB	790	Allentown, Pa.
2.7	4.3	2	CKLW	800	Windsor, Ont.
2.6	4.3	2	WNYC	820	New York, N.Y.
2.3	4.2	2	WTEL	860	Philadelphia, Pa.
2.0	4.2	2	WCBS	880	New York, N.Y.
1.7	4.2	2	CHML	900	Hamilton, Ont.
1.7	4.3	2	WFLN	900	Philadelphia, Pa.
1.3	4.2	2	WPAT	930	Paterson, N.J.
0.0	4.2	2	WINS	1010	New York, N.Y.
3.7	1.7	1	WHN	1050	New York, N.Y.
3.4	1.7	1	WKMB	1070	Stirling, N.J.
3.2	1.7	1	WBAL	1090	Baltimore, Md.
2.5	1.7	1	WAWA	1170	Wheeling, W.V.
2.5	1.2	1	WBRW	1170	Somerville, N.J.
2.4	1.2	1	WOWO	1190	Ft. Wayne, Ind.
2.3	1.5	1	WCAU	1210	Philadelphia, Pa.
1.0	1.2	1	WHWH	1350	Princeton, N.J.
0.4	1.0	1	WNJR	1430	Newark, N.J.
0.2	1.0	1	WCTC	1450	New Brunswick, N.J.

When this occurs turn the intensity knob down until the signal clears up. After all this is done, the best method of tuning is to use both hands to turn the intensity knob and wavelength control at the same time, tuning just under the oscillation point. The vernier tuning knob is a big help under these conditions. This radio also offers a volume control located inside the cabinet. This is a tap switch that shunts several different resistors across the secondary of the first audio. This was used when the local stations were too powerful and overloaded the audio section causing distortion.

The DX reception was only fair. The Radiola IV was not as selective as some of the later radios considered in these articles. However, when date of production is considered, along with the facts outlined in the beginning of this article, the IV is found to be a good set. As promised in the ads, it provided efficient local and long distance reception. Audio quality and volume were excellent and this was accomplished using the 199 tube with less gain than some other tubes available. The Radiola IV was expensive at \$275, but considering its innovations and all around quality, a radio fan with money could not go wrong with this set.

Jim McKinnon
605 No. Bridge St.
Bridgewater, NJ 08807

W.C. = Wavelength Control

I.C. = Intensity Control

A.C. = Antenna Connection

Note : When stations were received on both antenna connections only the #2 listing is included.

Old-timer's Notebook

James A. Fred • 1986 J. Fred -



Automobile radios are becoming very collectible. Since the main difference between home and auto radios is the method of obtaining the "B" voltages for the radio we are devoting this column to one question from one of our readers.

Q. Dear Old Timer: I have a 1936 Plymouth automobile with a Philco radio. It appears to be the original radio but it doesn't play. I know how to repair home radios made in the 1930's, but this radio has me stumped. There is a plug-in vibrator in the radio but I cannot find a Radio-TV repairman who is old enough to have worked with vibrators. Can you help me repair this radio?

A. I could tell you that the vibrator changes the DC from the car battery AC so that it can be stepped up in the power transformer to supply the plate and screen grid voltages to the radio. This would be true, but I think that you would like to know more than this. Therefore I will tell you and our other readers all about vibrators and the part they play in the operation of your auto radio.

To give you a little historical background, there were four major manufacturers of vibrators. Mallory, Radiart, Cornell Dubilier, and Oak. Some of the minor makers were Vokar, Electronic Laboratories, James Vibropower etc. I don't know how many vibrators were produced by these manufacturers, but I do know that Mallory built 10,000 vibrators per day for the Delco Radio Division of General Motors. Delco radio was and is located in Kokomo, Indiana.

There are two basic types of vibrators. The simplest type is the Interrupter vibrator. The other type is the self-rectifying or Synchronous vibrator. We shall explain these basic types. We

shall avoid technical variations such as base diagrams and reed driving systems. Our purpose is to teach you the basic theory and show you how to trouble shoot and repair your radio.

The simple interrupter type works like this: (refer to figure 1).

We know that a car battery delivers Direct Current (D.C.), but we need Alternating Current (A.C.) to operate a step-up transformer. From figure 1 we see that one side of the battery is connected to the transformer primary center tap. The other side of the battery connects to the vibrating reed and driving coil. When the auto radio is turned "ON" current flows through the driving coil and the magnetic field closes the left hand contacts. This causes current to flow through the upper half of the primary. The magnetic field in the driving coil collapses. The reed is made of spring steel and it swings over and closes the right hand contact. Thus, the current flows first through the upper half of the primary and then through the lower half of the primary. We have caused the battery voltage to flow alternately through each half of the primary, and since this is a step-up transformer, we have an induced 250 volts A.C. in each side of the secondary winding. Applied to a full wave rectifier tube we get 180 to 250 volts of pulsating D.C. By using the usual Pi network filter of two capacitors and a filter choke we can furnish pure D.C. to the plates and screen grids of the radio tubes.

The synchronous vibrator works like this: (refer to figure 2).

This vibrator has two sets of contacts. One set is in the primary circuit of the transformer and acts like the ones in the interrupter explanation above. The second set of contacts in the transformer secondary are used

to convert the induced A.C. back to D.C. for the plate and screen grids of the tubes.

Why did radio manufacturers use synchronous vibrators? The initial cost is higher than the interrupter vibrator, but eliminating the rectifier tube and socket still made the cost of building the radio slightly less. Another advantage was that you could use the same chassis and metal cabinet and put in an extra tube. This could be a push-pull audio stage or an extra I F amplifier stage. Either would allow another model with new features for the sales department.

Before we finish I would like to point out a very important component in the power supply. Since the transformer is an inductive load connected to the D.C. battery through the vibrator contacts, high induced voltages would be generated at each make and break of the vibrator contacts. These high induced voltages would result in severe arcing of the vibrator contacts. This would take metal from the contacts and result in early failure.

To control these high induced voltages we can connect a capacitor of the proper value across one of the transformer windings as shown by the dotted lines. These capacitors are referred to by radio servicemen as "Buffer" capacitors and are rated at 1600 volts breakdown. Their value varies from .002 to .008 mfd.

Now we are ready to answer the question, "How do we repair your radio?"

Your first clue is the fuse in the battery circuit to the radio. If the fuse is blown this usually indicates a shorted buffer capacitor or welded contacts in the vibrator. Any short circuit in the vibrator power supply can cause excessive current to flow in the vibrator contacts. This could be a shorted filter capacitor, a shorted buffer capacitor, or a worn out vibrator.

To repair the radio you should buy a new vibrator, fuse, and buffer capacitor. Carefully remove the buffer capacitor and replace it with one that has the same value and voltage rating as the original. Only as a last resort

should you try to repair a vibrator. I have done so, but my failures outweigh my successes. Before using a new vibrator you should "Flash it." What does this mean? When you buy a new vibrator remember that vibrators haven't been manufactured for a number of years and there is usually an oxide coating on the contacts. To remove the oxide connect a 100 watt light bulb in series with the wire coil in the vibrator. Refer to a vibrator replacement manual for the base diagram of the vibrator you are using. Plug the bulb, in series with the vibrator into the 115 volt wall outlet for a few seconds. The vibrator should vibrate vigorously. If it doesn't, plug it in again. It could take three or four shocks to get it going. After it is vibrating properly you may plug it into the radio. **ONE WORD OF CAUTION!** Do not leave the lamp and vibrator plugged in for more than 10 seconds at a time. I did once and melted the contacts off the vibrator.

After the installing the fuse, connect the radio to the proper voltage source and turn it "ON." If you hear a very loud hum, the filter capacitors will also have to be replaced. Plug in an antenna, if a regular auto radio antenna isn't available use about 6 foot of wire. Tune in a station and if the music is bothered with static, you will need to put the metal front and back on the radio. It sometimes helps to attach a ground wire to the radio cabinet. If the radio doesn't play normally you will have to trouble shoot it just like you would a house radio.

Q. I have been trying to reglue the veneer to an old radio cabinet. So far I've managed to glue everything but the veneer. What am I doing wrong?

A. I always used wax paper between the cabinet and clamp boards so the squeezed out glue would not damage the cabinet. I've just received an excellent tip in cabinet repairs from Kenny Frankenberry, Sr., and I want to pass it on to you.

First find some pieces of plexaglass about 2 inches wide, by 6, 8, 10, and 12 inches long by 1/4 inch thick. Apply the glue to the cabinet, and place the veneer where you want it. Lay a piece

of plexaglass between the veneer and a clamp; this way you can see what you are doing. Line up the wood as you want it, place another strip of plexaglass underneath and clamp the sandwich together. Most wood glue will not stick to the plexaglass.

So long for now. Keep those cards and letters coming and we will answer more questions next time.

James A. Fred
Rt. 1, Box 41
Cutler, IN 46920

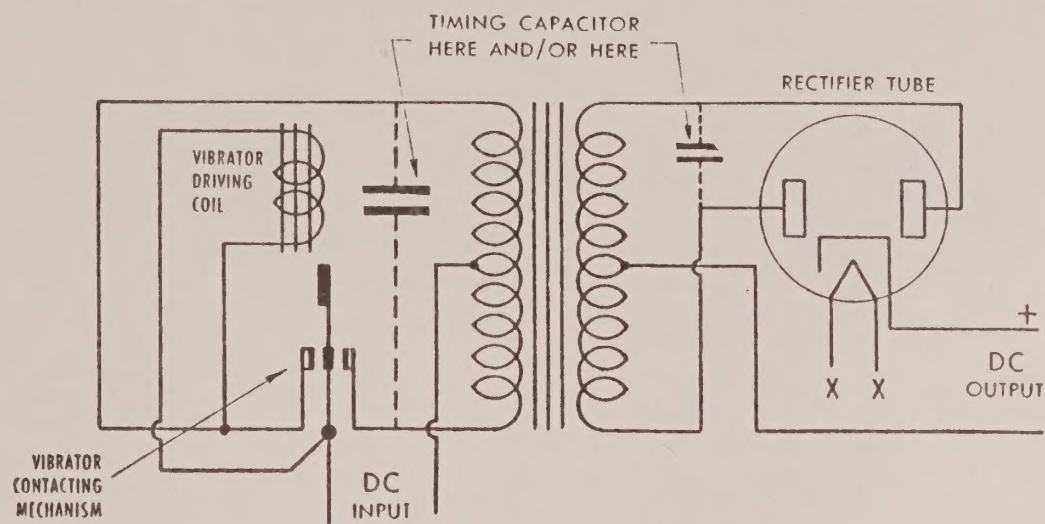


Figure 1: This circuit shows the Interrupter type Vibrator power supply.

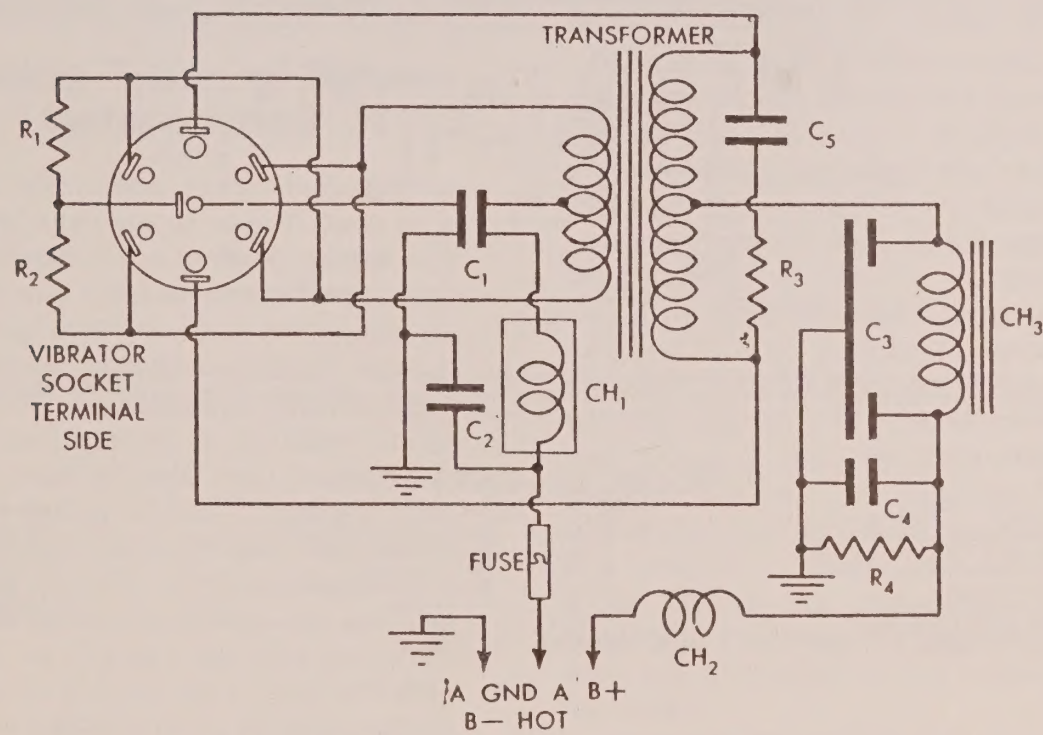
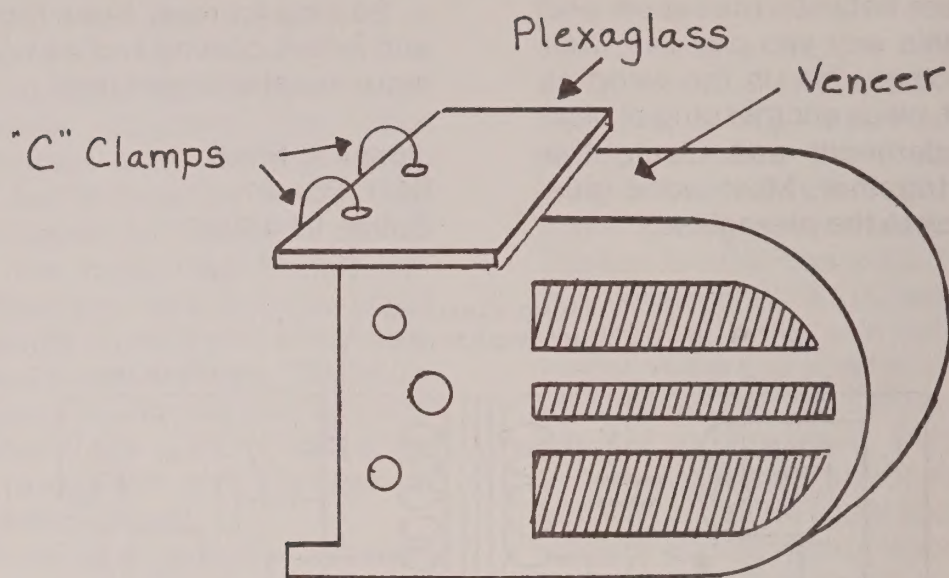


Figure 2: This circuit shows the Synchronous or self-rectifying Vibrator power supply.

(Additional schematics on next page)



This helpful hint on cabinet glueing was sent in by one of our readers. It may help you with a difficult cabinet repair.

MODEL EF FULL WAVE VIBRATOR (Used With Model 6F Receiver)

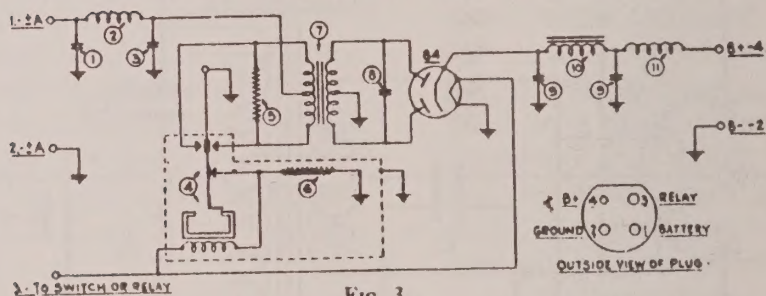


FIG. 3.

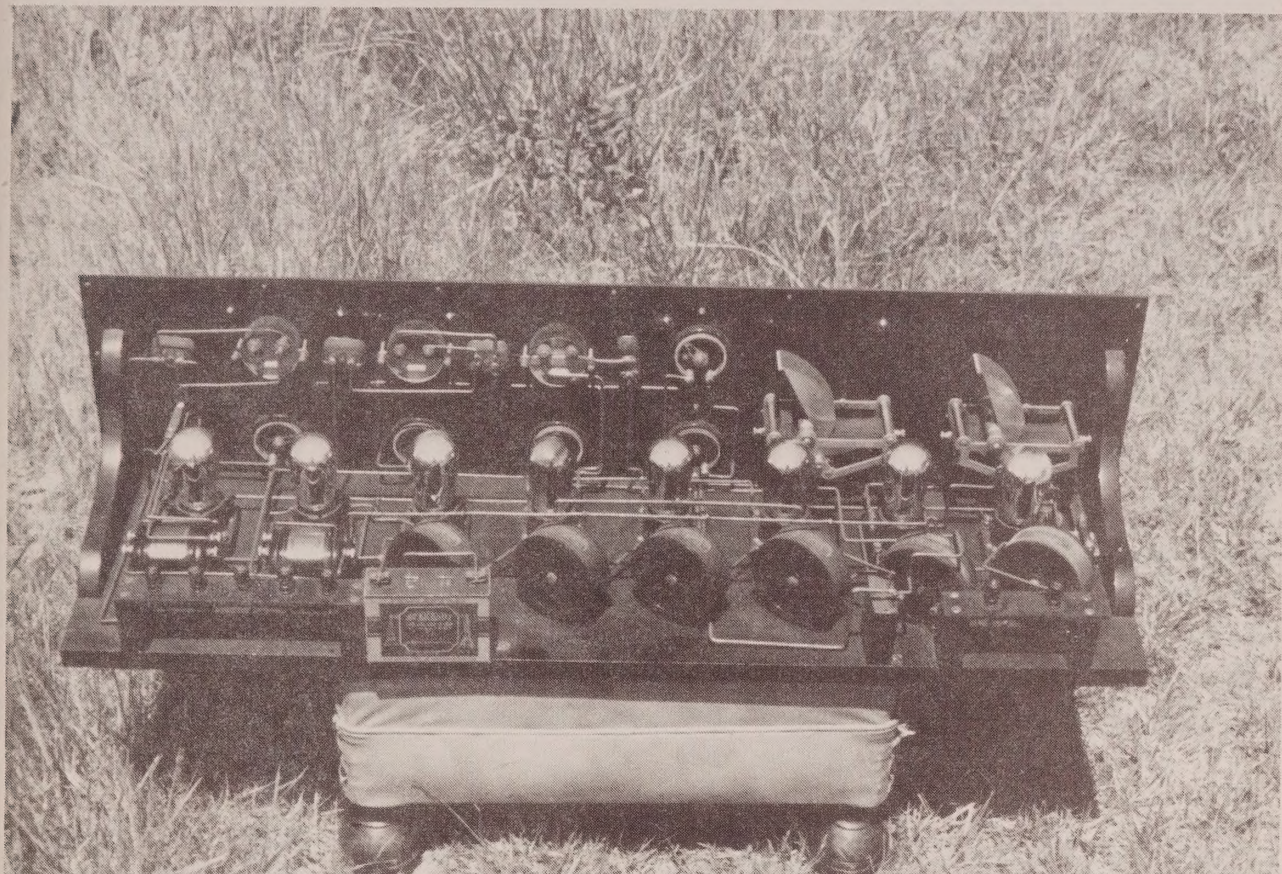
The Model EF takes the place of the EB dynamotor. The cable connection between the Vibrator and the Model 6F completes the installation of the Vibrator. Terminal 1 is connected directly to the main battery lead. Terminal 2 is the cable shield. Terminal 3 is connected to the Radio switch. Terminal 4 is the B+ high voltage lead and is connected directly to the plate circuits.

MODEL EF—PARTS LIST

No. on Fig. 3	Description	Part No.	No. on Fig. 3	Description	Part No.
①	Condenser (.5 mfd.)	30-4015	①	Condenser (.006 mfd.)	30-1002
②	R. F. Choke (Low voltage)	32-1083	②	Condenser (4 mfd.; 8 mfd.)	30-4010
③	Condenser (.5 mfd.)	30-4015	③	Filter Choke	32-7026
④	Vibrator	38-5036	④	R. F. Choke (High voltage)	32-1078
⑤	Resistor (200 ohms)	7217	⑤	84 Tube	32-2001
⑥	Resistor (200 ohms)	7217	⑥	Battery Cable (Model 6F)	41-3017
⑦	Transformer	32-7030			

This is the power supply circuit for the Philco model 5. It is one of the first Philco Auto radios.

Tod Prowell, of Mechanicsburg, Pennsylvania, found a Victoreen in mint condition. Searching for information about the set, he found the following article in RADIO REVIEW AND RADIO LISTENERS' GUIDE AND CALL BOOK.



Leading Types of Super-Heterodynes

The Victoreen super-heterodyne diagram appears at Fig. 1. This is a warm friend of the writers, and he has found it very reliable, simple to operate, and a set that provides practically as much volume as any of those he has tried. This super-het employs eight tubes, arranged in a standard hook-up, the intermediate frequency transformers being of the tuned air core type. The set is sharp and the potentiometer control is very insensitive, which is highly desirable.

If you build a set like this and then want to try out iron core or other intermediate transformers, all you have to do is to interchange them in the place of the air-core transformers ordinarily used in this circuit. The same oscillator coil can be left in place as well as the antenna coupler if one is used. The filter coupler is placed before the second detector.

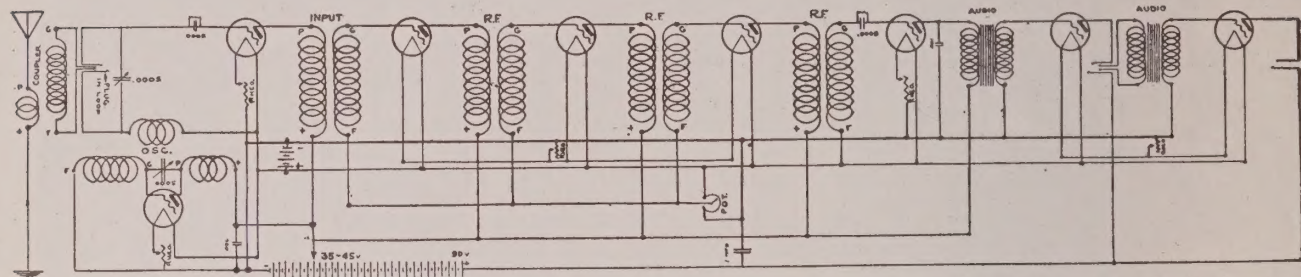
Any standard antenna coupler having an aperiodic primary for instance, can be used to couple antenna and ground to the set when the static is too severe and you want to reach out for more distance than the loop affords. When using a loop alone, which is the usual method of operating a super-het, you may try a ground connection to one side of the loop, which strengthens the signal, but frequently in summer brings in objectionable static or ground currents. The negative A side of the circuit is the one to be grounded if a ground is used, and whenever metal shields are used between or enclosing intermediate transformers, they are grounded to the negative A lead also.

In regard to the Victoreen lay-out of super-heterodyne, you will find this a very excellent standard circuit to experiment with, and as aforementioned, you can try out other transformers if you care to, using the same hook-up. Be careful in purchasing grid leaks

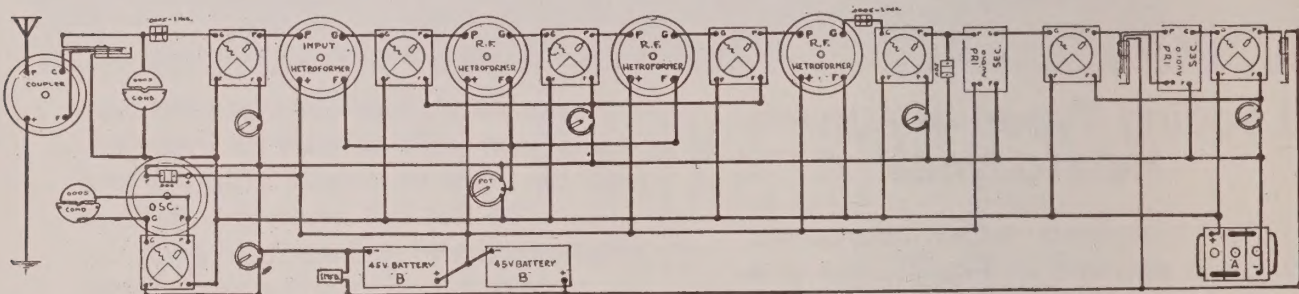
and condensers to see that you buy those of the best quality. The variable condensers used for the oscillator and loop tuning should of course be of the latest straight line frequency type, in order to separate the short wave stations in better shape. The arm of the potentiometer and one side of the winding should be short-circuited by a by-pass condenser of at least .0006, and 1/4 or 1/2 M.F. is better. The "B" batteries as well as the "A" batteries are best shunted by by-pass condensers of 1/4 to 1 M.F.

The regeneration feature for use with a tapped loop does not require a

regular variable midget condenser. This can be set for maximum regeneration at the lower frequencies without oscillation and left in this adjustment. For this reason the X-L variodenser is used. It has the capacity range of 20 to 100 micro-microfarads, a low dielectric loss gives smooth variation of capacity and stays put at any set value. The same units but with a range of 100 to 500 micro-microfarads are used for the grid condensers. These can be adjusted for the best capacity for the particular tubes used and in this way permit the best operating characteristics of the tubes.



The schematic wiring diagram of the Victoreen Super-Heterodyne. Note that connections to cross wires are represented by black spots. Other crossings are not connections.



A picture wiring hookup of the Victoreen Super-Heterodyne. Carefully observe that connections are shown as black spots

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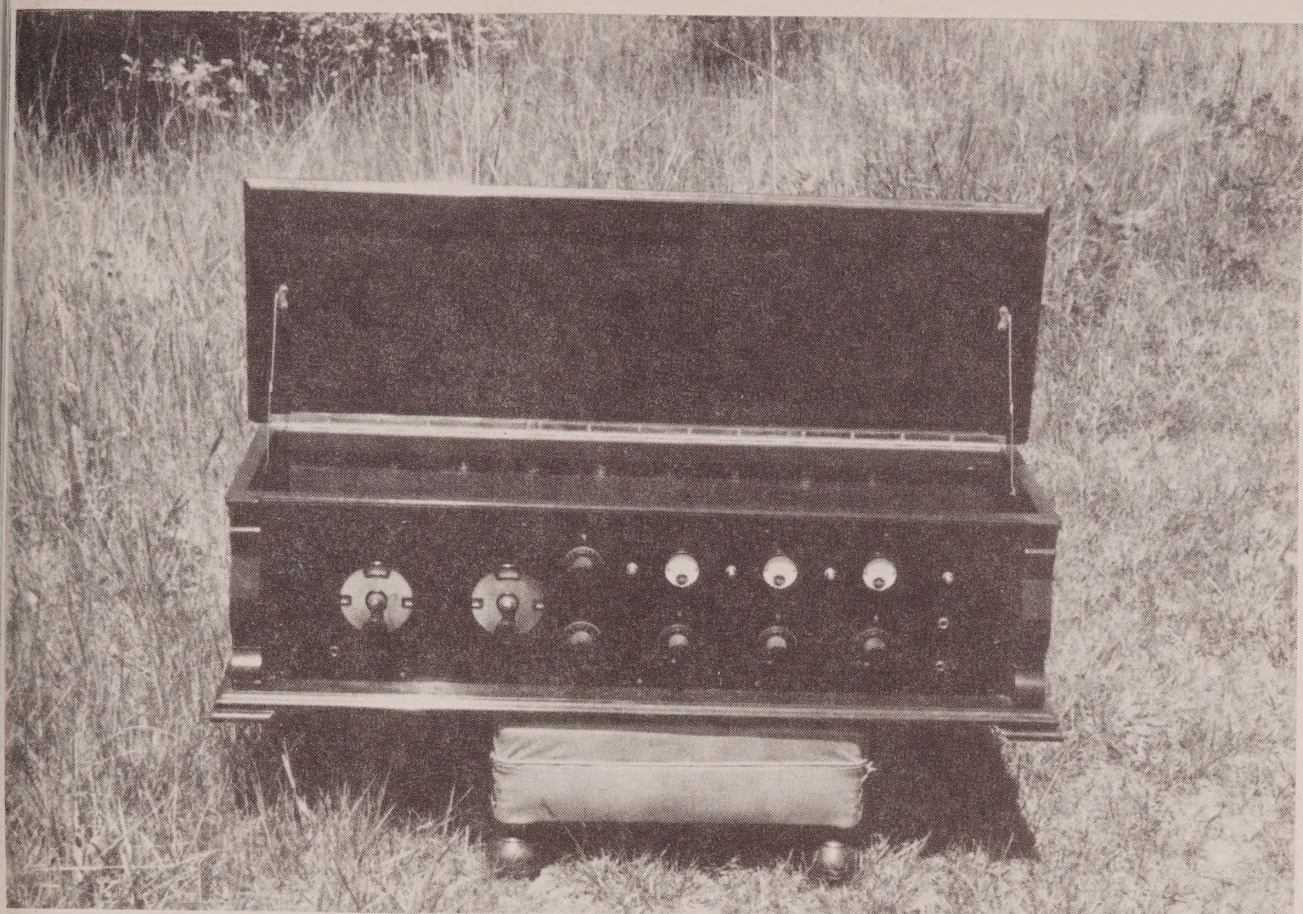
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Write for one of our hookup diagrams and list of parts for an eight tube Super Heterodyne set.

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CLEVELAND, OHIO



Dear Editor:

I was going to invite you to join the Mid-Atlantic Antique Radio Club, but Jim Troe got the drop on me and fouled up my plans. We have been sending club presidents our monthly newsletter free of charge and have been receiving a copy of their publications in return. Jim was the recipient of our newsletter as ARCA president. He has since joined our club and asked that we send the ARCA copy to you instead. So you will now be the official recipient of the newsletter. I'm still going to send you a couple of membership applications as you may know someone who would be interested in receiving a monthly publication of this caliber. We really pride ourselves on the newsletter and it is the cornerstone upon which our growth is based, especially in distant locations. As you will read in our August newsletter which is just now receiving the finishing touches, we had a great anniversary party. We had a cookout where 60 hamburgers and much chicken quickly vanished, 44 people registered for the two auctions, and attendance was in the area of 100 to 125. We also raised

almost \$300 for our treasury from the auctions, and sold \$418 worth of T-shirts and bumper stickers. Not bad!

We are looking forward to hosting the 1987 ARCA meet here in our area and discussed many of the details with Jim and his wife. We hope to have the location firmed up this month. Before I forget, we grant blanket permission for any clubs to extract information from any of our newsletters to run in their publications. This also applies to the Gazette. We ask only two things, (1) that you give attribution to the club newsletter, and (2) to the author.

Lastly, I would like to order two of your AK dial faces. I have an AK 84 with no numbers at all, and an unidentified grandfather clock with a similar dial. Enclosed is my check for \$10.00. You should send our editor (Ted Hannah) an ad about these items. Not all of our members are ARCA members (in spite of my best efforts) and do not get Gazette. Look forward to hearing from you. Pass those applications along—I need 80 more members!

Joseph W. Koester, President
Mid-Atlantic Antique Radio Club
249 Spring Gap South,
Laurel, MD 20707 Tel: 301/725-4229

The Mid-Atlantic Antique Radio Club (MAARC) is an association of people interested in collecting and restoring antique radios and studying radio history. While most members live in Maryland, the District of Columbia, and Northern Virginia, MAARC has members throughout the United States and even a few overseas. Specialized interests of members vary from World War I Marconi sets to 1950s plastic table models and from historical radio and television literature to rare tubes. Teenagers just discovering antique radio and old timers who grew up with "head telephones" enjoy MAARC.

Activities and Benefits of Membership:

- Monthly newsletter with articles on radio history, restoration, and servicing; free classified ads for members; announcements of radio related meetings; news of MAARC and its members.
- Monthly meetings, usually in the Washington/Baltimore area, with a radio-related program.
- Auctions, swap meets, and shows.

- Group purchases on parts & supplies.
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Yearly dues are \$10.00 US and Canada, \$20.00 overseas (Europe, Japan, etc.). Checks or money orders in US funds should be made payable to: Brian Belanger, MAARC Membership Chairman, 616 Nelson Street, Rockville, MD 20850.

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Harry W. Houck (left) is holding his invention which is said to do away with A and B batteries. It is a plug which fits into any alternating current light socket. William Dubilier, radio manufacturer, is pointing out to the audience of radio editors the first model of the device. Raymond Francis Yates, of the New York *Herald-Tribune* is standing between Mr. Houck and Mr. Dubilier. Orrin E. Dunlap, Jr., of the New York *Times* is on the extreme right.

